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National Center for Chronic Disease Prevention and Health Promotion

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Frequently Asked Questions

Basics About Diabetes

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↑ What is diabetes?

Diabetes is a disease in which blood glucose levels are above normal. Most of the food we eat is turned into glucose, or sugar, for our bodies to use for energy. The pancreas, an organ that lies near the stomach, makes a hormone called insulin to help glucose get into the cells of our bodies. When you have diabetes, your body either doesn't make enough insulin or can't use its own insulin as well as it should. This causes sugar to build up in your blood.

Diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. Diabetes is the sixth leading cause of death in the United States.

For more information, see the National Diabetes Information Clearinghouse publication, *Your Guide to Diabetes: Type 1 and Type 2*.

↑ What are the symptoms of diabetes?

People who think they might have diabetes must visit a physician for diagnosis. They might have SOME or NONE of the following symptoms:

- Frequent urination
- Excessive thirst
- Unexplained weight loss
- Extreme hunger
- Sudden vision changes
- Tingling or numbness in hands or feet
- Feeling very tired much of the time
- Very dry skin
- Sores that are slow to heal
- More infections than usual.

Nausea, vomiting, or stomach pains may accompany some of these symptoms in the abrupt onset of insulin-dependent diabetes, now called type 1 diabetes.

↑ What are the types of diabetes?

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Diabetes & Me

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CDC Diabetes Public Inquiries
Call toll-free
1-877-CDC-DIAB

Type 1 diabetes, which was previously called insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes, may account for 5% to 10% of all diagnosed cases of diabetes. **Type 2 diabetes**, which was previously called non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes, may account for about 90% to 95% of all diagnosed cases of diabetes. **Gestational diabetes** is a type of diabetes that only pregnant women get. If not treated, it can cause problems for mothers and babies. Gestational diabetes develops in 2% to 5% of all pregnancies but usually disappears when a pregnancy is over. **Other specific types of diabetes** resulting from specific genetic syndromes, surgery, drugs, malnutrition, infections, and other illnesses may account for 1% to 2% of all diagnosed cases of diabetes.

↑ What are the risk factors for diabetes?

Risk factors for type 2 diabetes include older age, obesity, family history of diabetes, prior history of gestational diabetes, impaired glucose tolerance, physical inactivity, and race/ethnicity. African Americans, Hispanic/Latino Americans, American Indians, and some Asian Americans and Pacific Islanders are at particularly high risk for type 2 diabetes.

Risk factors are less well defined for type 1 diabetes than for type 2 diabetes, but autoimmune, genetic, and environmental factors are involved in developing this type of diabetes.

Gestational diabetes occurs more frequently in African Americans, Hispanic/Latino Americans, American Indians, and people with a family history of diabetes than in other groups. Obesity is also associated with higher risk. Women who have had gestational diabetes are at increased risk for later developing type 2 diabetes. In some studies, nearly 40% of women with a history of gestational diabetes developed diabetes in the future.

Other specific types of diabetes, which may account for 1% to 2% of all diagnosed cases, result from specific genetic syndromes, surgery, drugs, malnutrition, infections, and other illnesses.

↑ What is the treatment for diabetes?

Healthy eating, physical activity, and insulin injections are the basic therapies for type 1 diabetes. The amount of insulin taken must be balanced with food intake and daily activities. Blood glucose levels must be closely monitored through frequent blood glucose testing.

Healthy eating, physical activity, and blood glucose testing are the basic therapies for type 2 diabetes. In addition, many people with type 2 diabetes require oral medication, insulin, or both to control their blood glucose levels.

People with diabetes must take responsibility for their day-to-day care, and keep blood glucose levels from going too low or too high.

People with diabetes should see a health care provider who will monitor their diabetes control and help them learn to manage their diabetes. In addition, people with diabetes may see endocrinologists, who may specialize in diabetes care; ophthalmologists for eye examinations; podiatrists for routine foot care; and dietitians and diabetes educators who teach the skills needed for daily diabetes management.

The Diabetes Overview fact sheet from the National Diabetes Information Clearinghouse (<http://www.diabetes.niddk.nih.gov/dm/pubs/overview/index.htm>) has additional information.

↑ What causes type 1 diabetes?

The causes of type 1 diabetes appear to be much different than those for type 2 diabetes, though the exact mechanisms for developing both diseases are unknown. The appearance of type 1 diabetes is suspected to follow exposure to an "environmental trigger," such as an unidentified virus, stimulating an immune attack against the beta cells of the pancreas (that produce insulin) in

some genetically predisposed people.

For more information about the immune system, visit these pages from The National Institute of Health's (NIH) National Institute of Allergy and Infectious Diseases Web site:

- The Immune System
- Understanding Autoimmune Diseases

For more information on genetics and disease, visit:

- NIH's Genetics Home Reference
- NIH's Human Genetics and Medical Research online exhibit
- The Centers for Disease Control and Prevention's (CDC) Office of Genomics and Disease Prevention
- NIH's National Center for Biotechnology Information's Human Genome Resources page

↑ Can diabetes be prevented?

A number of studies have shown that regular physical activity can significantly reduce the risk of developing type 2 diabetes. Type 2 diabetes also appears to be associated with obesity.

Researchers are making progress in identifying the exact genetics and "triggers" that predispose some individuals to develop type 1 diabetes, but prevention remains elusive.

See the Preventing Diabetes section in these FAQs for more information.

↑ Is there a cure for diabetes?

In response to the growing health burden of diabetes, the diabetes community has three choices: prevent diabetes; cure diabetes; and improve the quality of care of people with diabetes to prevent devastating complications. All three approaches are actively being pursued by the US Department of Health and Human Services.

Both the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) are involved in prevention activities. The NIH is involved in research to cure both type 1 and type 2 diabetes, especially type 1. CDC focuses most of its programs on being sure that the proven science is put into daily practice for people with diabetes. The basic idea is that if all the important research and science are not applied meaningfully in the daily lives of people with diabetes, then the research is, in essence, wasted.

Several approaches to "cure" diabetes are being pursued:

- Pancreas transplantation
- Islet cell transplantation (islet cells produce insulin)
- Artificial pancreas development
- Genetic manipulation (fat or muscle cells that don't normally make insulin have a human insulin gene inserted — then these "pseudo" islet cells are transplanted into people with type 1 diabetes).

Each of these approaches still has a lot of challenges, such as preventing immune rejection; finding an adequate number of insulin cells; keeping cells alive; and others. But progress is being made in all areas.

↑ What are some other sources for information on diabetes?

The CDC's National Diabetes Fact Sheet

The National Diabetes Information Clearinghouse

MedlinePlus's Diabetes Tutorial

The following organizations may help in your search for more information on diabetes:

Federal Government Organizations

Department of Veterans Affairs

Internet <http://www.va.gov/diabetes/>

Health Resources and Services Administration

Internet <http://www.hrsa.gov>

Indian Health Service

Diabetes Program

5300 Homestead Road NE, Albuquerque, NM 87110

505/248-4182

Internet <http://www.ihs.gov/MedicalPrograms/Diabetes/index.asp>

National Diabetes Education Program

Internet <http://www.cdc.gov/diabetes/ndep/index.htm>

The NDEP is a nationwide initiative of the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH). It is an inclusive, partnership-based program involving many diverse public and private sector partner organizations. The goal of the program is to reduce the morbidity and mortality of diabetes and its complications.

For more information on NDEP, call toll free 1-800-438-5383.

National Institute of Diabetes and Digestive and Kidney Diseases

1 Information Way, Bethesda, MD 20892-3560

800/GET LEVEL (800/438-5383) or 301/654-3327

Internet <http://www.niddk.nih.gov/>

National Eye Institute (NEI)

Bldg. 31, Room 6A32

31 Center Drive, MSC 2510

Bethesda, MD 20892-2510

301/496-5248 or 800/869-2020 (to order materials)

301/402-1065 (fax)

Internet <http://www.nei.nih.gov>

Office of Minority Health Resource Center

US Department of Health and Human Services

P.O. Box 37337, Washington, DC 20013-7337

800/444-MHRC (444-6472)

Internet <http://www.omhrc.gov/>

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American Association of Diabetes Educators

100 West Monroe, 4th Floor, Chicago, IL 60603-1901

800/338-3633 for names of diabetes educators
312/424-2426 to order publications
Internet <http://www.aadenet.org>*

American Diabetes Association

1701 North Beauregard Street
Alexandria VA 22311
Telephone 703-549-1500
1-800-ADA-ORDER to order publications toll free
1-800-342-2383 (800-DIABETES) for diabetes information
Internet <http://www.diabetes.org>*

American Dietetic Association

National Center for Nutrition and Dietetics
216 West Jackson Boulevard, Suite 800, Chicago, IL 60606-6995
800/366-1655 Consumer Nutrition Hotline (Spanish speaker available)
800/745-0775
Internet <http://www.eatright.org/>*

American Heart Association National Center

7272 Greenville Avenue, Dallas, TX 75231
214/373-6300
Internet <http://www.americanheart.org/>*

American Optometric Association

1505 Prince Street, Alexandria, VA 22314
800/262-3947 or 703/739-9200
Internet <http://www.aoanet.org/>*

American Podiatric Medical Association

9312 Old Georgetown Road
Bethesda, MD 20814
301/571-9200 or 800/ASK-APMA
301/530-2752 (fax)
Internet <http://www.apma.org/>*

International Diabetic Athletes Association

1647-B West Bethany Home Road, Phoenix, AZ 85015
800/898-IDAA or 602/433-2113
602/433-9331 (fax)

Juvenile Diabetes Research Foundation

The Diabetes Research Foundation
120 Wall Street, 19th Floor, New York, NY 10005-4001
800/JDF-CURE or 800/223-1138
212/785-9595 (fax)
Internet <http://www.jdrf.org>*

Medical Eye Care for the Nation's Disadvantaged Senior Citizens

The Foundation of the American Academy of Ophthalmology
P.O. Box 429098, San Francisco, CA 94142-9098
800/222-EYES (222-3937)

National Diabetes Information Clearinghouse

1 Information Way, Bethesda MD 20892-3560
301/654-3327 (phone); 301/907-8906 (fax)
ndic@erie.com (e-mail)
Internet <http://diabetes.niddk.nih.gov/index.htm>

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United States Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Division of Diabetes Translation